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AN OCCURRENCE OF *PALUDESTRINA SALSA* IN NEW JERSEY.

BY BAYARD LONG.

The rapid extermination of the native flora along the New Jersey coast, through the so-called "improvements" in real estate, has led me during a period of some years to endeavor, as opportunity arose, to make as complete a survey as possible of the plants of Long Beach. (This is a long narrow island lying midway in the ocean boundary of New Jersey. Beach Haven, its best known summer resort, is probably the most familiar name associated with this twenty miles of coast.) When grading was accomplished mostly by the destruction and leveling of the sand dunes, much of the brackish marsh area escaped serious disturbance, but with the introduction of the suction-dredge even the salt marshes, with their flora and fauna, soon disappear under the flooding sand.

With this thought in mind, whenever I am collecting plants in the vicinity of Tucker's, I make a point of visiting a certain deep brackish pond-hole in the midst of the salt marshes. My interest lies in the endeavor to find fruit on the *Ruppia* which fills this pool. The several forms of this water-plant are distinguished mainly upon fruit characters, and the present colony seems to consistently spend its energies vegetatively.

In the autumn of 1914 in picking over handfuls of this *Ruppia* in hopes of finding a fruiting strand or old fruit entangled among the leaves, I found a small Annicoloid snail (the size of a *Ruppia* fruit). On hasty examination it some-

what resembled *Lyogyrus granum*, with which I had become familiar in the Delaware River tidal marshes, living upon water-plants of the same group. Suspecting it might be of some interest, it was submitted to Mr. E. G. Vanatta, and though the shell was deformed, he pronounced it to be *Paludestrina salsa* Pilsbry.

As this formed a rather considerable southerly extension of range of this little-known shell, a more satisfactory basis for the new record was established August 5, 1915, when a good series was obtained. The snail proved to be much more common upon floating algal vegetation than upon the *Ruppia*, and the amount of material obtained depended only upon the quantity of algae picked over. This appears to be a thriving colony as individuals in all stages of development were equally common. Some slight variation seems to occur, as seen in mature examples, but this is apparently no greater, nor of any more significance, than previously noted in this species.¹

The pond-hole where this colony of *Paludestrina salsa* occurs is rather unique among the physical features of Long Beach. Most of the pieces of brackish water on the salt marshes here are merely shallow, muddy depressions of irregular outline, but the present one is a deep round pool of no great area with precipitous sides. If it occurred in rocky country it would probably be referred to as a pot-hole or a sink-hole.

In looking up the literature of the described localities where this snail has been observed, I find in the interesting accounts which Rev. H. W. Winkley gives of the various habitats known to him, that there are references which very closely suggest the Long Beach station. In Branford, Connecticut, the snail is described as abundant on vegetable matter floating in a ditch in the brackish marsh (to combine information from two notes).² In the later paper there is also reference to the station in Wareham, Massachusetts where a colony occurs "in a pot hole in the marsh." I have no doubt that in physical features the Long Beach locality much resembles the one in Wareham. If

¹ Winkley, *Nautilus*, xix, 107 (1906).

² Winkley, *Nautilus*, xix, 107 (1906) and xxii, 53 (1908).

the snail here also occurs on floating vegetation the similarity would be very striking.

This colony near Tucker's, Long Beach Island, Ocean County New Jersey extends the range of *Paludestrina salsa* southward, to the best of my knowledge, from Branford, Connecticut, which is near New Haven—an extension of considerably over a hundred miles.

My material, critically examined by Mr. E. G. Vanatta, is deposited at the Academy of Natural Science of Philadelphia.

PLEISTOCENE MOLLUSKS FROM ILLINOIS.

BY FRANK C. BAKER.

Early in the year the Page Engineering Company of Chicago submitted to the writer some specimens of mollusks and moss obtained from a cutting near the Fox River, one mile east of Cary Station. The sequence of deposits is as follows :

1. Black earth . . .	2 feet 6 inches
2. Brown earth . . .	2 " 6 inches
3. Marl	4 "
4. Moss	2 "
5. Marl	2 "
Height of section . .	13 "

Eight species of mollusks were picked from the marl, No. 3.

Valvata tricarinata Say.

Valvata lewisii Currier.

Amnicola lustrica Pilsbry.

Amnicola limosa Say.

Planorbis parvus Say.

Planorbis exacutus Say.

Galba galbana Say.

Physa species (fragments).

The moss was submitted to Doctor Edward W. Berry, Johns Hopkins University, who determined it to be "*Plagiothecium denticulatum* (Linné) B. and S., probably near the subspecies *rosaceum* (Hampe) B. and S." Occurring as this thick moss